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Subject:  
GE Aviation – Altitude Test Facility  
Data Summary of Eleventh Air Sampling Event – July 2014

ENVIRONMENT

Dear PCB Coordinator:

Date:  
July 31, 2014

On July 2, 2014, GE Aviation, an operating division of the General Electric Company (GE), performed indoor air testing activities at the Altitude Test Facility (ATF) at GE's facility in Evendale, Ohio, in accordance with EPA's January 16, 2014 amendment to EPA's December 19, 2012 approval allowing GE to use the ATF for jet engine testing pursuant to 40 CFR § 761.62(c). This report is being submitted pursuant to Consent Agreement and Final Order (TSCA-05-2014-0008) filed on April 28, 2014.

GE collected two indoor air samples at the ATF on July 2, 2014, while conducting jet engine testing on July 2, 2014 and received the laboratory report containing the results on July 21, 2014. One sample was "Non-Detect" for PCBs, and the second sample had low but detectable results for PCBs, estimated at 26.8 nanograms per cubic meter (ng/m<sup>3</sup>), well below the NIOSH standard of 1,000 ng/m<sup>3</sup>. (Note that Non-Detect denote that analytes were not detected at concentrations greater than the laboratory practical quantitation limit - PQL.) Further details for the sampling event follow in the report and **Table 1**.

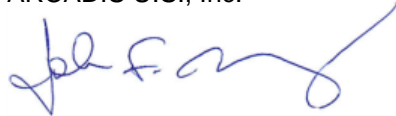
Air test sample ATF-AR-C44-06, located adjacent to the #44 Test Cell Chamber of the ATF, and air test sample ATF-AR-CR2-11, located on the second floor of the compressor room, were both collected over an 8-hour interval. The samples were collected on July 2, 2014, during routine jet engine testing activities. Both air pumps were placed in a manner such that the air sample would be collected from the breathing zone, in the room where equipment was in operation during engine tests. Both air pumps used for this event were programmed for a flow rate of 5.0 L/minute for a total run time of eight hours. Calibration and preparation of air samples followed Method TO-10A: Compendium of Methods for Toxic Organic Air Pollution. During the sampling event, a total volume of 2,400 Liters was pumped through each sample collection media.

The laboratory analytical results of the sampling event are provided in the Data Summary Table, attached as **Table 1** and the sampling locations are provided on the attached **Figure 1**. As indicated in the attachments, sample ATF-AR-C44-06 (collected adjacent to Test Cell #44) had an estimated level of PCBs of 26.8 ng/m<sup>3</sup>, and sample ATF-AR-CR2-11 (collected from the second floor ATF compressor room) had “non-detect” levels of PCBs ng/m<sup>3</sup>. The laboratory quantitation limit (PQL) for these results was 41.7 ng/m<sup>3</sup>, with a final extraction volume of 5.0 mL. The specific operating parameters of the analytical instruments used by PACE Analytical during sample analysis are detailed in **Attachment 1**.

Please do not hesitate to contact John Rumpf, Counsel for Environmental Affairs at GE Aviation, at (513) 243-4256 or Christopher Bell at Greenberg Traurig LLP at (713) 374-3556 if you have any questions.

Sincerely,

ARCADIS U.S., Inc.



John F. Novotny, PE  
Senior Engineer

Attachments

Table 1

Figure 1

Attachment 1

Copies:

John Rumpf, GE

Christopher Bell, Greenberg Traurig, LLP

**Table 1**

**Table 1**  
**Data Summary - PCB Air Monitoring - July 2014**

**GE - Aviation - Altitude Test Facility**  
**Cincinnati, Ohio**

Sampling ID	Date Collected	Time Collected	Sample Type	Total PCBs (ng/m <sup>3</sup> )	Location Description
<b>Event 11</b>					
ATF-AR-C44-06	7/2/2014	17:10	Air	26.8 J	Test Cell 44 open floor area
ATF-AR-CR2-11	7/2/2014	17:15	Air	ND	Second floor of ATF Compressor Room

Notes:

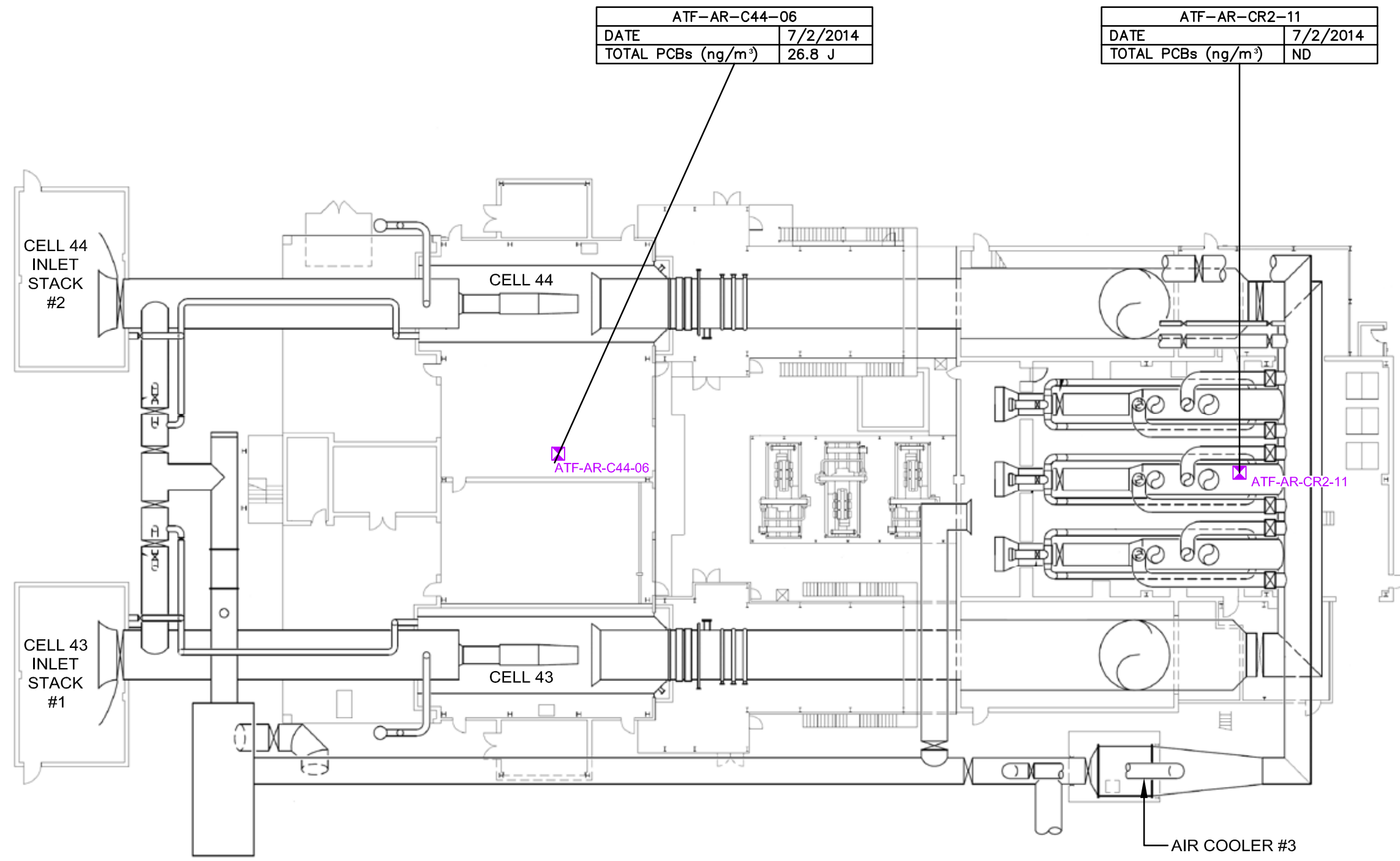
1. Samples collected by ARCADIS personnel and submitted to Pace Analytical Laboratory for analysis using USEPA Compendium Method TO-10A procedures.
2. Air pumps were set up at breathing zone height and operated over an 8-hour interval at an air intake rate of approximately 5 L/min, resulting in approximately 2,400 L of air pulled through the puff for each sample.
3. Event 11 took place at the ATF on July 2, 2014 conducting during the engine testing in July 2014.
4. Total PCBs - the sum of aroclors 1016 through 1268
5. The final extraction volume of 5.0 mL was conducted by the laboratory.
6. The initial injection volume of 1µL was conducted by the laboratory.
7. the Laboratory determined no sample breakthrough occurred on all sample media.
8. ND (Non-Detect) - Denotes analyte not detected at a concentration above the MDL
9. PQL (Practical Quantitation Limit) of 41.7 ng/m<sup>3</sup> per aroclor. Denotes lowest analyte concentration reportable for the sample.
10. Time Collected, denotes the time which the air pumps completed the 8-hour run interval.
11. J - Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the PQL.

Abbreviations:

ATF - Altitude Test Facility  
AR - PCB air sample  
C44 - Test Cell #44  
CR2 - compressor room-second floor  
PCBs - polychlorinated biphenyls  
ng/m<sup>3</sup> - nanograms per cubic meter

**Figure 1**

CITY: SYRACUSE, NY DIV: GROUP: ENVCAD DB: LPOSENAUER, LD: (Opt) PM: CAVERILL, TM: (Opt) LVR: (Opt) ON: "OFF" REF: V:\ENVCAD\SYRACUSE\ACT\N003\335\2013\RES01\ATSR31335C07.dwg LAYOUT: 1.1 SAVER: 7/21/2014 2:56 PM ACADVER: 18.1 (LMS TECH) PAGES: 18.1 (LMS TECH) PLOT: 7/29/2014 2:43 PM BY: POSENAUER, USA



**LEGEND:**

- ☒ AMBIENT PCB AIR MONITORING LOCATION


**SAMPLING NOMENCLATURE:**

- ATF – ALTITUDE TEST FACILITY
- AR – PCB AIR SAMPLE
- C44 – TEST CELL #44
- CR2 – COMPRESSOR ROOM SECOND FLOOR

**NOTES:**

- SAMPLING LOCATIONS ARE APPROXIMATE.
- ng/m³ – NANOGRAMS PER CUBIC METER
- TOTAL PCBs – THE SUM OF AROCLORS 1016 THROUGH 1268.
- J – DENOTES AN ESTIMATED CONCENTRATION. THE CONCENTRATION RESULT IS GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT (MDL) BUT LESS THAN THE PQL.

NOT TO SCALE

GE-AVIATION CINCINNATI, OHIO <b>AIR TEST SUMMARY REPORT</b>	
<b>DATA SUMMARY - PCB RESULTS AMBIENT PCB AIR MONITORING</b>	
	FIGURE <b>1</b>



**Attachment 1**

GC #: GC-20 8082 High Level Hydrogen  
 Method: Method 3  
 Column: GC20F ZB-1MS 20M 0.18mm 0.18um  
 GC20B ZB-5 20M 0.18mm 0.18um  
 Date: 7/9/2014  
 Analyst: JKA  
 File Name: C:\Users\KELLYH~1.NOR\AppData\Local\Temp\XPgrpwise\[GC20\_Parameters\_1\_1.xls]8082 HL H2

**Sample Delivery:** SEE LEAP PARAMETERS

**Column Oven:**

Step	Temp (°C)	Rate (°C/min)	Hold (min)	Total (min)
Initial	150	-----	1.41	1.41
1	290	17.5	0.65	10.06

Stabilization Time (min): 0.5

**Injector: Front CP-1177**

1177 Oven Power: ON  
 1177 Temperature (°C) 300

Time	Split State	Split Ratio
Initial	ON	35

**Flow/PSI(Front EFC, Type 1):**

Step	Pres (psi)	Rate (psi/min)	Hold (min)	Total (min)
Initial	*	-----	10	10

Constant Flow Mode Enable: NO  
 Column Flow Rate (ml/min): 1.5

**Detector: Front ECD**

ECD Oven Power: ON  
 Temperature (°C) 300  
 Electronics: ON  
 Range: 1

Time	Range	Autozero
Initial	1	YES

ECD Adjustment  
 Time Constant: Fast  
 Cell Current: CAP  
 Contact Potential (mV): \*

**Front ECD Adjustments**

Make-up Flow (mL/min) 35

**Analog Output**

Detectors: Front: ECD  
 Middle: ECD  
 Rear: None

Time	Signal Source	Attenuation
Initial	Front Detector	1
Time	Signal Source	Attenuation
Initial	Middle Detector	1
Time	Signal Source	Attenuation
Initial	Rear Detector	1

**Valve Table:**

Time	1	2	3	4	5	6	7
	None	None	None	None	None	None	None
Initial	----	----	----	----	----	----	----

Initial valve state=Off

**Injector: Middle CP-1177**

1177 Oven Power: ON  
 1177 Temperature (°C) 300

Time	Split State	Split Ratio
Initial	ON	30

**Flow/PSI(Front EFC, Type 1):**

Step	Pres (psi)	Rate (psi/min)	Hold (min)	Total (min)
Initial	*	-----	10	10

Constant Flow Mode Enable: NO  
 Column Flow Rate (ml/min): 1.5

**Middle ECD**

ECD Oven Power: ON  
 Temperature (°C) 300  
 Electronics: ON  
 Range: 1

Time	Range	Autozero
Initial	1	YES

Fast  
 CAP  
 \*

**Middle ECD Adjustments**

35

\*values  
 may  
 change  
 with use